

**EKSTRAKSI PROTOPORFIRIN IX DARI KERABANG TELUR PUYUH (*Cortunix cortunix*) DAN KOMPLEKSASINYA DENGAN ZN(II)**

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***EXTRACTION OF PROTOPORPHYRINS IX FROM QUAIL EGGSHELL (*Cortunix cortunix*) AND COMPLEXATION WITH ZN(II)***

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**ABSTRACT**

*The aim of this research is to find the optimal condition for Zn(II) complexation with protoporphyrin IX which is a natural coloring pigment on quail eggshell. The concentration of protoporphyrin IX extract is 0.01% (w / w) of the dried extract. The results of the complex are analyzed using Response Surface Methodology (RSM). The design used was central composite design with 3 factor variables  $X_1 = \text{pH}$  (2; 4; 6),  $X_2 = \text{ratios}$  (1: 3, 1: 4, 1: 5) and  $X_3 = \text{time}$  (30', 60', 90'). The modeling used is linear and shows that the pH, ratio, and time factor have an influence on the complexation. This model gives the absorbance equation  $Y = 2.12506 - 0.049856X_1 - 0.020316X_2 - 0.00409857X_3$  and gives treatment in the most optimum complexation of pH 2; ratio of 1: 3; and time for 30 minutes with the absorbance of 1,293 and the desirability value of 0.825*

**Keywords :** optimization, protoporphyrin IX, quail eggshell